REMARKS

Claims 1-23 remain in this application. Claim 1 is amended to clarify the claim. Claims 20-23 are added. No new matter has been introduced. Applicants thank the Examiner for the indication that claims 1-16 are in condition for allowance.

The Examiner rejected claim 17 under 35 USC §102(a) as being anticipated by Lary (U.S. Patent No. 4,273,128). The Examiner states that Lary discloses the elements of claim 17. Applicants respectfully traverse this rejection.

Independent claim 17 claims a cardiopulmonary bypass catheter system that includes a return cannula having a lumen adapted for flowing blood therethrough, and an occlusion catheter sized and configured to be slidably positioned through the return lumen. The occlusion catheter has an occlusion member that has a collapsed configuration adapted for introduction through the return lumen and an expanded configuration adapted for occlusion of the ascending aorta between the coronary ostia and the brachiocephalic artery.

Applicants respectfully submit that neither Lary nor Lee teach or suggest the claimed invention either alone or in combination. The system described in Lary does not include a cannula having a lumen adapted for flowing blood therethrough. Lary describes a cannula 12 that may be passed through a peripherally introduced catheter 23, where the cannula has a balloon 16 disposed about a distal portion. The cannula is sized such that the balloon reaches a coronary artery such that the balloon may be used in a conventional angioplasty procedure. See col 3:60-col 4:10. That is, the balloon is located at an existing constriction within a coronary artery and expanded to spread the stenosis within the coronary artery.

Catheter 23 of Lary does not include a lumen adapted for flowing blood therethrough. Further, Lee is cited by the Examiner for its teaching that a hemostasis valve was known in the art and has no bearing on this issue. As a result, neither Lee nor Lary teach or suggest a catheter that is slidably positionable within the claimed cannula lumen, as neither discloses such a lumen.

In addition, balloon 16 of Lary does not have "an expanded configuration adapted for occlusion of the ascending aorta between the coronary ostia and the brachiocephalic artery". Instead, balloon 16 is designed to have an expanded configuration that opens a small passageway through the blocked artery. The specification of Lary at column 4 states:

"theoretically, the lumen need only be increased to a diameter of between one and two millimeters to effect such normal blood flow pressure in the stenotic or completely occluded artery." Lary, col 4: 2-6. The "lumen" refers to the lumen of the blocked artery. As a result, the diameter of balloon 16 need only be expandable to 1 to 2 millimeters, a size much too small to block the aorta at a location between the coronary ostia and the brachiocephalic artery.

Thus, Lary does not teach or suggest either a balloon catheter that is slidable within the lumen of a cannula adapted for flowing blood therethrough or a balloon that is configured to occlude the aorta, and Applicants request the Examiner to withdraw the rejection.

The Examiner rejected claims 18 and 19 under 35 USC §103(a) as being unpatentable over Lary in view of Lee (U.S. Patent No. 5,125,904). Applicants respectfully traverse this rejection.

Further, Lary alone, or in combination with Lee, does not teach the inventions claimed in dependent claims 18-23 for the reasons described above and for at least the following additional reasons. Lary nor Lee disclose a balloon catheter having an infusion lumen having an infusion outlet located distal to the occlusion member as claimed in claim 19. Neither Lary nor Lee disclose a return cannula having a lumen of the size described in claim 20 or is configured as described in claim 21. Further, the balloon catheter of Lary is not sized such that the occlusion member is located within the ascending aorta between the coronary ostia and the brachiocephalic artery, when the cannula is introduced into an artery peripheral to the aorta, as is claimed in claim 22. Rather than being sized to reach and configured to occlude the aorta, cannula 12 of Lary is sized to reach a coronary artery and configured to "compress the stenotic plaque and thereby open the lumen for blood flow". Lary col 4:62-64. For these additional reasons, Applicants submit that neither Lary nor Lee teach or suggest the limitations of the dependent claims 18-23, and request the Examiner to withdraw the rejection.

Applicants wish to bring to the Examiner's attention related U.S. Patent Application Serial No. 09/863,135 (HRT 241) being prosecuted by the undersigned. In addition, Applicants' assignee is prosecuting unrelated U.S. Patent Application Serial Nos. 10/029,861 (HRT 291) and 09/617,459 (HRT 182), having similar subject matter.

Applicants plan to submit an Information Disclosure Statement next week in this case. Applicants submit herewith a petition for a three-month extension of time and grant the Commissioner permission to charge Deposit Account No. 10-0750/HRT0023/BST, as may be required, in connection with the prosecution of this application. Applicants also submit a fee sheet granting the Commissioner permission to charge the above account for the fee due for adding the additional claims.

In view of the above, Applicants respectfully submit that the application is in condition for allowance. If the Examiner believes that a telephone conference with Applicants' agent would advance the prosecution of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,

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